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to Primary School

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SCHOOL-AGE.*

A STUDY OF THE CHILD FROM BIRTH TO PRIMARY SCHOOL.

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THE normal child makes the normal man. I feel strongly that the greatest factor in the physical and mental growth of the child is its diet in early life. That the breast-fed child is early stronger mentally and physically, that it is surer of quicker and deeper mental growth, I have seen repeatedly illustrated. Race, stock, comforts, food, locality and climate influence this growth. Nervous women beget nervous children, while from courageous mothers we find courageous offspring. Malnutrition, therefore, within the first year of life, I believe to be the greatest hindrance to normal growth. The infant at birth is physically and mentally helpless, the body powerless, the senses not awakened and the brain and its functioning power immature. The ear does not distinguish sounds, the eye does not see well and there is no color or form perception. The brain of the new-born does not lack the principal fissures and convolutions, but, says Pryer, they are shallow while the secondary and tertiary fissures are totally wanting. Not until the fifth week, according to Sarnoff, are the accessory sulci and the convolutions present. Rachford says that at birth the brain is morphologically and functionally the most immature of all great body organs. From birth to seven years it develops enormously in weight, structure and function, then slowly increases in weight to eighteen years, but the increase of function does not keep pace with the increase of weight.

* Read before the Harvard Medical Society, New York, April 25, 1908.

The child's brain is almost as large as the brain of the adult while the functional development goes on. At birth the nervous system is immature. The metabolism of the normal, immature nerve-cells of the child must be rapid enough to supply waste and also material for growth and development. In the fetal brain the individual cells are distinct and separate from each other, they must first undergo a process of elaboration; in other words, they must bud out and branch.

The earliest movements of the child are reflex and not the result of activity in the higher cerebral centres. As the brain develops each stage is marked by more medullation, the fibres of the cord, medulla oblongata, pons, varolii and the corpora quadrigemina are the first to obtain their myelin sheaths, and therefore they functionate before the higher cerebral centres. Undoubtedly, the first sensations of the infant are joint sensations, muscle sensations, etc., as the feeling of the limb, the sucking of the thumb, the pulling of the toes, the fingers and of the nose. This I beg to call personality-suggestion and is the first step for the infant to awaken to his own evolving ego. This period often begins with the second month; no set time, however, can be stated. The first attempts at steady attention are directed to moving things around him, to persons talking and to those singing, to whisperings, to the wind sighing through the trees, the movements of animals and of persons. Gradually imitation comes into play. He feels his head as does his father, he imitates the father's and mother's movements with his feet and hands. With the evolution of the ego must come speech. The infant cannot speak coherent sounds because its impressive, central and expressive organs are not fully developed. Again, the sounds produced are dependant upon the growth of the brain, size of the tongue, soundness of the hearing apparatus, of the teeth, etc. The normal child can understand much quicker than he can speak, and forms of his own accord and to himself sounds that occur in future speech. Says Pryer again, in children the formation of ideas is not bound up with the learning of words, but it is a necessary prerequisite for the understanding of the words to be learned first and therefore for learning to speak. Before the child uses a syllable or understands a single word it has a number of ideas which it expresses by looks, cries and movements. Therefore, the mother should form general ideas of the child's movements, cries, impulses, sleep, dreams, personal preferences, muscular efforts, attempts of expression, games, favor-

ites and the like. There are no complex concepts or high ideas without speech. The connection between the ear and the speech-centre is more practical than that between the eye and the speech-centre. With a child that does not speak but is beginning to repeat syllables correctly and to associate them to primitive ideas the act of imitation takes longer than with a normal adult, but the paths in the brain which he makes use of are shorter absolutely and relatively; absolutely because the whole brain is smaller, relatively because the higher centres are still lacking. The child, in short, learns thusly: first he has ideas, then he imitates the sounds, syllables and words spoken for him, finally associating the ideas with the latter.

The capacity for thought is inborn. Through the repetition of sounds heard, the child associates ideas definite in character. With verbal announcement of his own ideas, sensations and perceptions of tangible visible objects he has not yet attained advancement towards higher ideas or concepts, for this he must have memory and association. He learns higher ideas and concepts from the experiences of adults, such ideas as of the Creator, freedom, immortality, eternity and the like. Usually such words come before a proper understanding of them. Froebel allowed children of themselves to invent and discover. All concepts exist only after many sense impressions have been received. The concepts often formed at an early age remain the longest because the brain wants food of sure impressions for functioning. I believe with G. Stanley Hall that the country children get ahead of the city children because their mental impressions are less in number and therefore they are more vivid. In the city the children see and hear too much at too young an age. The country children see nature, feel nature and gradually begin to understand and love nature.

With this foreword, let us follow the mental and physical growth of the child from the nursery to the primary school. The most important period of the child's life after the first twelve months is the nursery. This should be a large, sunny room, well ventilated, facing, if possible, the south. The child should wear loose clothing, preferably of linen, that the body movements be retarded just as little as possible. Weekly weighings and daily bathing of the child should be the necessary nursery routine. The food should be of the plainest, at regular intervals, and the eating of meat or many eggs should be prohibited at first and afterward given in very moderate quantity after the

fourth or fifth year. Singing, yelling, playing and sleeping must be encouraged. An open-air playground should be in close proximity to the nursery. Simple toys and simple games should be given him that he may invent and investigate. His questions as to why must be answered patiently and intelligently. The language of the nurse should be pure, she using no slang or baby-talk. The will is to be directed into certain paths and the mental impressions regulated. Corporal punishment must not be permitted, the child punished by depriving it of some cherished treasures or much-desired toy. Care must be taken that nothing systematic not even the letters should be taught a child at this period. The nurse must be a girl of some education that she may with the lips be able to frame words for the child to imitate. At the age of seven the child is sent to the kindergarten. Not before this time, however, as the usual child before this time is physically and mentally immature. Fortunately, kindergartens are provided by our excellent Board of Education for the poor of this city and many churches provide them for the poor in their parishes, so that the poor as well as the better-to-do may gain the benefits from this excellent institution. At about this time the child has begun to feel his strength and possibilities; before this he usually feels weak and resisting. In New York this kindergarten movement has grown to great proportions. In the year 1907 in the borough of Manhattan alone the number of classes were 208 an increase of 11.2 per cent. over the year before; the number of teachers was 192, an increase of 4.3 per cent.; while the average register of pupils was 5484, showing an increase of 8.1 per cent. over the preceding year. In this city also the Board of Education is allowing its teachers to visit the homes of the pupils and hold conferences with the mothers to encourage mother-play and song. So-called mothers' meetings are held once a month to instruct the mothers in the care and amusement of their young children. The room of the kindergarten should be large and well ventilated, a room where no other kinds of exercises take place, containing plants, flowers and pretty pictures should be distributed around it. System in moderation should be here begun, but care taken that the child's nervous system be not overstimulated, resulting often in chorea, hysteria or in extreme nervousness. A spacious playground should be provided where after an hour or so in the room, games can be played in the open during pleasant weather. Clay moldings, the cutting of paper designs and musical drills are excellent forms of amusement, as

is also the singing of the children in unison. The child must not get too tired, and the instructress must change the amusement when she sees fit. The mental concepts are thereby made stronger and more impressive, the mind rendered more vigorous the general intelligence more surely promoted and the memory and reasoning powers strengthened. The teacher should foster the child's happiness, should teach it the lesson of patience, truthfulness, contentment, self-denial, charity and fortitude. The gaining of the child's fixed attention should be begun. Kindergartens should amuse, not teach. Oftentimes I have seen the work degenerate into a mere trick and the teacher becoming a machine. I believe that nearly two out of every three children are irretrievably damaged from poor instructresses, too long sitting postures and drills, with not enough freshness and change. Questions asked should be patiently answered and the child's expressions thoughtfully studied. At the age of eight, or better nine years, the latter age being a far more fitting one for a precocious child, who should be kept in the open air, as well as for the phlegmatic backward child who should be gently and patiently taught at home or in some school devoted to just such pupils, the child enters the primary school. As in the kindergarten, the sexes should be together. In this city last year the average number of pupils to a teacher was in the elementary grades forty-two, in the kindergartens 28.19 per cent. of our city children are under, while 12 per cent. are over age; the compulsory school-age being eight to fourteen years. I believe in women teachers to teach the primary grades, the men to teach the older children. I agree with Mr. Maxwell, superintendent of our city schools, in Mr. Herbert Spencer's conclusions in reference to women teachers for the young, that women respond more readily to pity and to appeals of equity than do men; they are, moreover, guided more by generosity; their minds dwell more on the concrete and proximate; they see more the simple, direct consequences of an act; they realize the immediate public good, they stand more in awe of power and of authority, but they understand a child's nature better than do the men.

There are confronting a teacher in every school four types of pupils: the sanguine, the choleric or passionate, the melancholic and the phlegmatic. In our schools there are too few teachers to pupils, many of these being bigger-brained than practical. We need more and more the instructress who, paying attention to the graces and refinements of a home, instill just these qualities in the

minds of children whose home is a hell, whose fathers are tyrants and whose mothers are overworked. At this age there is a great intellectual awakening in the combination, analysis, destruction, investigation, penetration and in the unveiling of the veiled to a child's mind. In the school the ego should be developed, work made easy, and the hours for sitting still shortened, cramming and home work not permitted. Plenty of out-door life and the not too rapid changing from one subject to another should be remembered. The earlier the imperfectly developed nervous system is subject to strain in a one-sided manner, so much the earlier does it become dulled and less plastic, but the longer it retains its receptivity so much the longer does growth last. The "interested in much" man, remains young the "indifferent" is always old. As an illustration of this one-sided method I cannot refrain from citing an instance mentioned by Sir John E. Gorst in his book "Children of the Nation." The school superintendent of a school of young children in Greenwich, England, had selected the subject of animal physiology for study. A little girl was asked to describe the human body. She described it as follows: "The human body consists of three parts: the head, chest and 'stummick.'" The head contains the eyes and the brain if any: the chest contains the heart, lungs, and a bit of the liver while the "stummick" contains the vowels which are a, e, i, o, u, and sometimes w and y." You see the confusion in this poor child's mind.

And now just a word as to the classification of all school children. Every child should be examined by a physician before being allowed to enter school. The family doctor in the case of the well-to-do, a physician provided by the city in the case of the poor. Choreiac, hysteric and markedly nervous children should be barred out and sent away to the country or to institutions similar to that in Charlottenburg near Berlin to build up and regain their vigor. Children suffering from adenoids, ear disease, rickets, malnutrition, syphilis, tuberculous diseases of the glands, eye affections, and bone conditions should be treated. Corporal punishment should be abolished and examinations or competitive exercises rigidly tabled. Finally two rules must be borne in mind by the educator and layman; spare the organs of sense and the nervous system and educate them and by no means destroy that which in years makes the master; the child's ego.

